



STEM for ALL through Universal Design for Learning

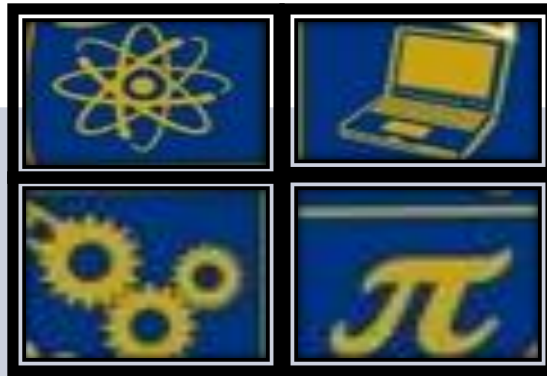
Spring EEA Follow-up



STEM Education is for ALL Students



Approach



**Science,
Technology,
Engineering,
Mathematics**

**21st
Century**

**STEM
Education
Goal**

UDL Considerations for STEM Units and Lessons

Goals or Standards



- STEM Standards of Practice
- Content Standards (Science, Technology/Engineering, Mathematics)
- Other Content Standards related to the real world problem, complex question, or global issue



UDL Considerations for STEM Unit/Lessons



Materials

- Use of Science tools
- Use of Technology and Engineering tools
- Use of Mathematics tools



UDL Considerations for STEM Unit/Lessons

Methods

- Problem/Project-based pedagogy
- Inquiry-based pedagogy



UDL Considerations for STEM Unit/Lessons

Assessments

Performance-based assessments

- portfolios
- project journals
- graphs and illustrations





UDL Resources

For STEM Education


- ◆ Understanding Disabilities
- ◆ Universal Design for Learning
- ◆ Differentiated Instruction
- ◆ Co-Teaching
- ◆ PBIS
- ◆ Assistive Technology
- ◆ Response to Intervention
- ◆ Transition
- ◆ Blog
- ◆ Discussions
- ◆ Archives (Teaching All Students)


Teaching All Students




Today's increasingly diverse classrooms present great opportunities as well as complex challenges for educators. How do you plan, instruct and assess so that all of your students learn and achieve to their maximum potential? In this part of the site, we focus on a variety of real-world tools and strategies that can assist you in promoting success for all your students, with a particular emphasis on students with disabilities. You will also see here that approaches like Universal Design for Learning, Differentiated Instruction and Co-Teaching – while originally intended to address the needs of students with disabilities – can actually help every student that you teach.

GET LINKED
Join and Participate.

 Join us on iTunes

 Visit us on YouTube

 Read our Blogs



3 of 8



Co-Teaching - Part 2



**EARN MSDE CPD
Credit this
SPRING**

Thinkport and Maryland State Department of Education are excited to announce the publication of the Spring 2012 course schedule. Download a copy of the course listings [here](#).

Earn credit and experience a simulated **Inquiry Team** through the Thinkport course, **Data-Driven Action Research Simulation for Classroom Teachers**.

The KHAN Academy

<http://www.khanacademy.org/>



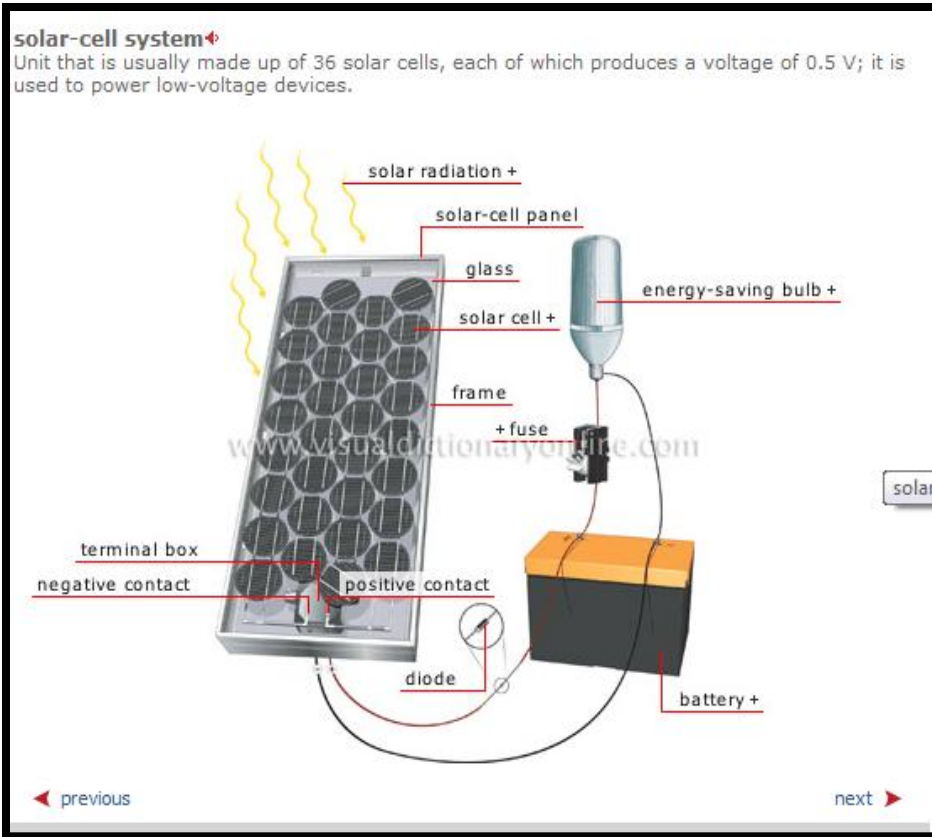
The screenshot shows the Khan Academy website interface. At the top, it says "129,759,656 lessons delivered" and "KHANACADEMY". There is a search bar and navigation links: WATCH, PRACTICE, COACH, VOLUNTEER, ABOUT. The main content area features a video player titled "US and Japanese Quantitative Easing". The video player shows a man speaking, with handwritten notes and diagrams overlaid. The notes include "Fed Fund", "Quant", "Credit Easing", "MBS", "Commercial", and "Longer term financing". The diagrams show arrows connecting these concepts. To the right of the video player, there is a section titled "Watch. Practice." with the text "Learn almost anything for free." and a description: "With a library of over 3,000 videos covering everything from arithmetic to physics, finance, and history and 315 practice exercises, we're on a mission to help you learn what you want, when you want, at your own pace." Below this, there are two buttons: "Watch a Video" and "Try an exercise". At the bottom, there is a section for "Teacher or administrator? Explore our Teacher Resources." with social media links for Facebook (745k), Twitter (40k), and YouTube (12k). There is also a field to "Enter your email to learn about new courses" and a "Get Updates" button.

- Over 3,000 videos
- 315 Practice Exercises
- Multiple Content Tutorials



Visual Dictionary

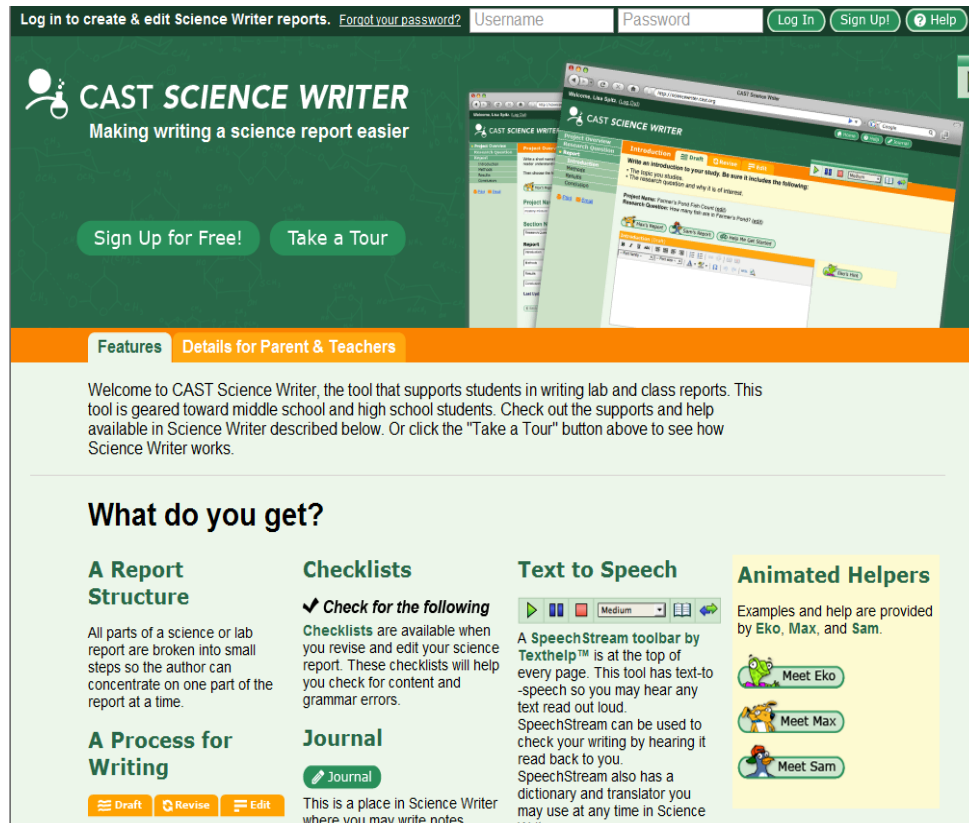
<http://visual.merriam-webster.com/>



- Includes labeled illustrations
- Provides explanations in up to 6 languages

CAST Science Writer

<http://sciencewriter.cast.org/>



The screenshot shows the CAST Science Writer website. At the top, there's a login section with fields for 'Username' and 'Password', and buttons for 'Log In', 'Sign Up!', and 'Help'. Below this is a green banner with the text 'CAST SCIENCE WRITER Making writing a science report easier' and two buttons: 'Sign Up for Free!' and 'Take a Tour'. A navigation bar below the banner has 'Features' and 'Details for Parent & Teachers' tabs. The main content area has a welcome message and a section titled 'What do you get?' which lists four features: 'A Report Structure', 'Checklists', 'Text to Speech', and 'Animated Helpers'. Each feature has a brief description and a 'Meet' button for a character (Eko, Max, and Sam).

Log in to create & edit Science Writer reports. [Forgot your password?](#) Username Password Log In Sign Up! Help

CAST SCIENCE WRITER
Making writing a science report easier

Sign Up for Free! Take a Tour

Features Details for Parent & Teachers

Welcome to CAST Science Writer, the tool that supports students in writing lab and class reports. This tool is geared toward middle school and high school students. Check out the supports and help available in Science Writer described below. Or click the "Take a Tour" button above to see how Science Writer works.

What do you get?

A Report Structure

All parts of a science or lab report are broken into small steps so the author can concentrate on one part of the report at a time.

A Process for Writing

Draft Revise Edit

Checklists

✓ **Check for the following**

Checklists are available when you revise and edit your science report. These checklists will help you check for content and grammar errors.

Journal

Journal

This is a place in Science Writer where you may write notes.

Text to Speech

A SpeechStream toolbar by Texthelp™ is at the top of every page. This tool has text-to-speech so you may hear any text read out loud. SpeechStream can be used to check your writing by hearing it read back to you. SpeechStream also has a dictionary and translator you may use at any time in Science

Animated Helpers

Examples and help are provided by Eko, Max, and Sam.

Meet Eko

Meet Max

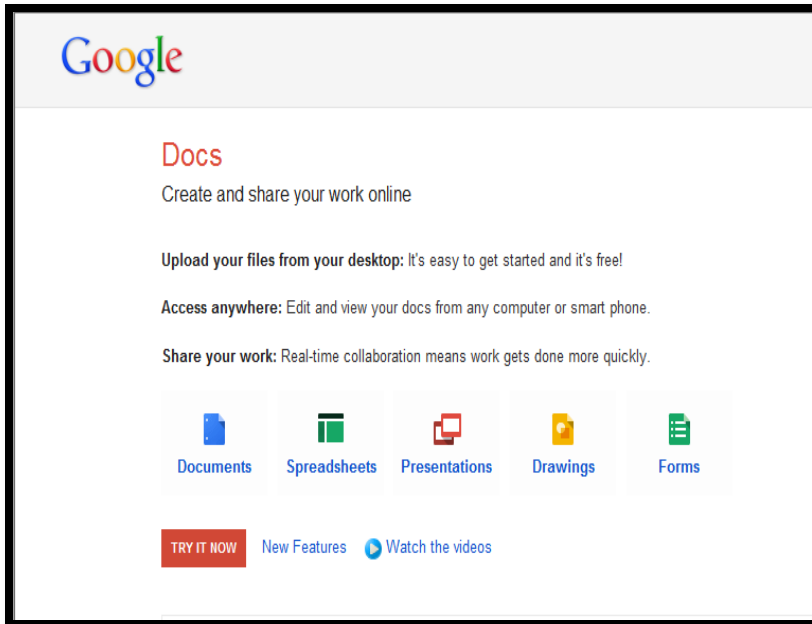
Meet Sam

- Includes a Text to Speech toolbar that reads any text out loud
- Assist with drafting, revising, and editing Science reports



Google Docs

<https://accounts.google.com/>



- Create and Share documents online
- Share a variety of documents (spreadsheets, presentations, drawings)



PhET Interactive Science Simulations

<http://phet.colorado.edu/en/simulations/category/new>

Wave on a String

Download 450 kB **Run Now!**

Embed Version: 2.03 ([change log](#))

- Research-based simulation of physical phenomena
- Measurement instruments
- Immediate responses



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<http://www.tryengineering.org/>

- Engineering Career Exploration in Multiple Languages

Discover the creative engineer in you

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Engineers Week 2012
[Engineers Week 2012](#), 19-25 February, is a weeklong celebration of the positive contributions engineers make to our world.

Check out these highlights:
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[Future City Finals](#)
[Discover Engineering Family Day](#)

1 2 3 4 5 6



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